

Uninterrupted Traffic Flow

*Tangible Result Driver – Don Hillis,
Director of System Management*

Missouri drivers expect to get to their destinations on time, without delays. Traffic, changes in weather, work zones and highway incidents can all impact their travel. MoDOT works to ensure that motorists travel as efficiently as possible on the state system by better managing work zones, snow removal and highway incidents, and by using the latest technology to inform motorists of possible delays and available options. Better traffic flow means fewer crashes.



Uninterrupted Traffic Flow

Average speeds on selected roadway sections

Result Driver: Don Hillis, Director of System Management

Measurement Driver: Eileen Rackers, State Traffic Engineer

Purpose of the Measure:

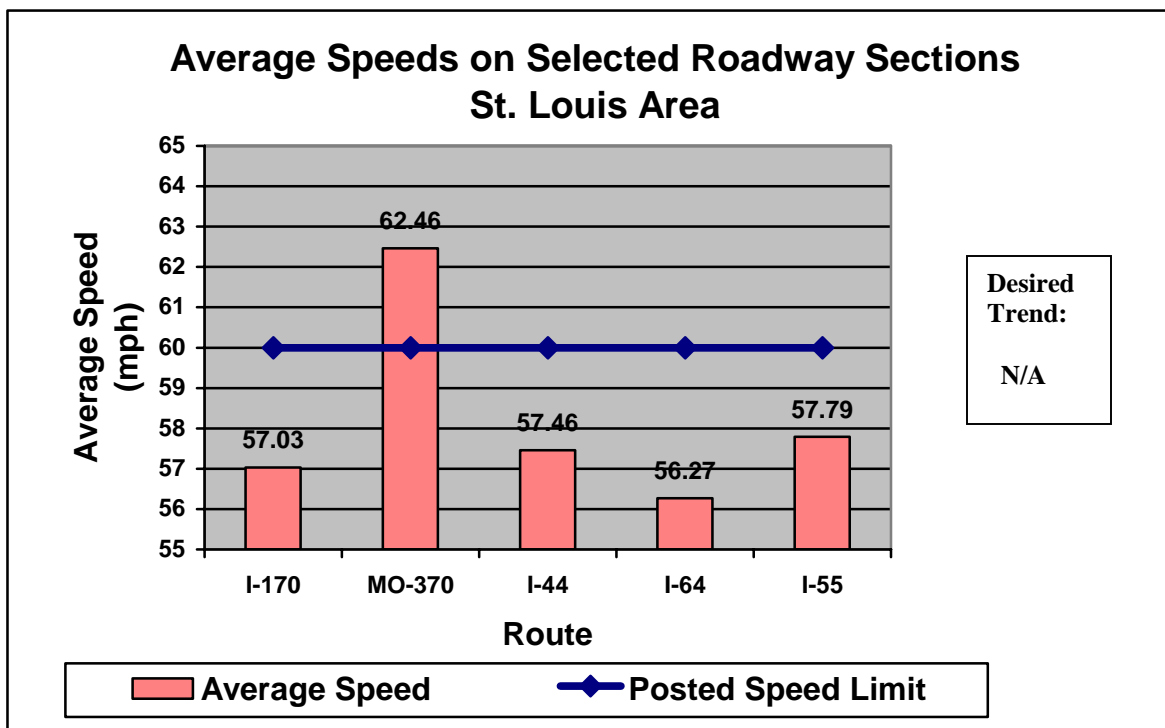
This measure tracks average speeds on various roadway sections. Monitoring speeds is a tool for improving transportation system performance.

Measurement and Data Collection:

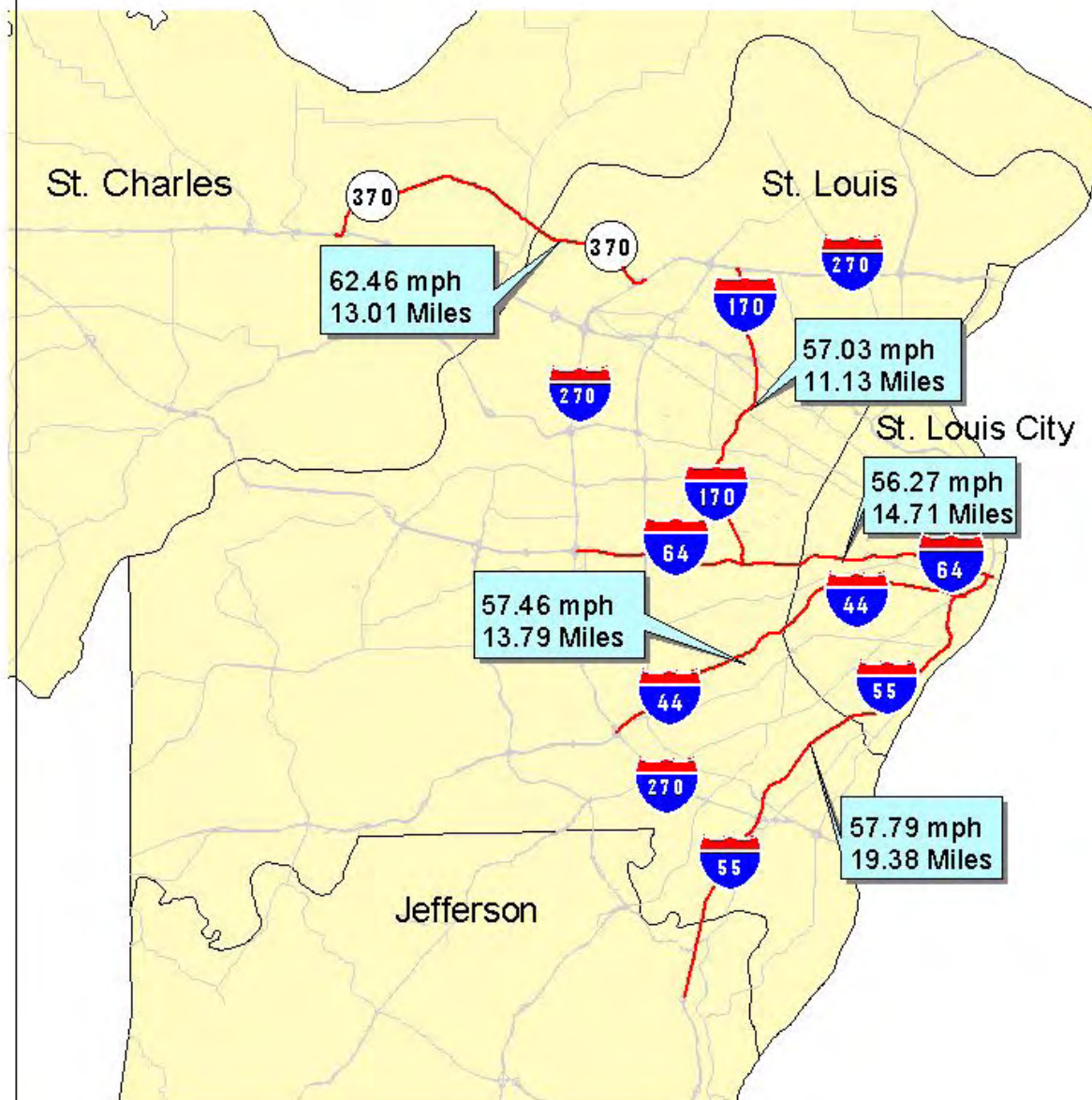
Data from this reporting period was provided through our partnership with Traffic.com. They have installed traffic sensors along five routes in the St. Louis metropolitan area, to help monitor traffic conditions. Currently, MoDOT is negotiating a contract for statewide traffic data services. These services will provide traffic data, such as speed and travel time, on up to 5,500 roadway miles. Additional data collection procedures are also being explored for the future, such as determining speeds and travel times through Advanced Transportation Management System software at the Transportation Management Centers in the St. Louis, Kansas City and Springfield areas.

Improvement Status:

To help improve average speeds, live traffic data for three Missouri metro areas is available on MoDOT's website at www.modot.gov in the Services Section under Traveler Services. Kansas City Scout provides traffic information for Kansas City, Gateway Guide provides traffic information for St. Louis, and Ozarks Traffic provides traffic information for Springfield. Currently, archived speeds are only available for a limited number of roadway segments. Future availability of additional travel time and speed data will allow a more comprehensive approach to improving average speeds, and efforts will be focused on roadways with average speeds lower than the posted speed limit. The desired trend is to have the average speed approach the posted speed limit.



St. Louis Area *



* Any parties wishing to use this data commercially should contact Traffic.com.

Uninterrupted Traffic Flow

Average time to clear traffic incident

Result Driver: Don Hillis, Director of System Management

Measurement Driver: Dan Bruno, Traffic Studies and Corrections Engineer

Purpose of the Measure:

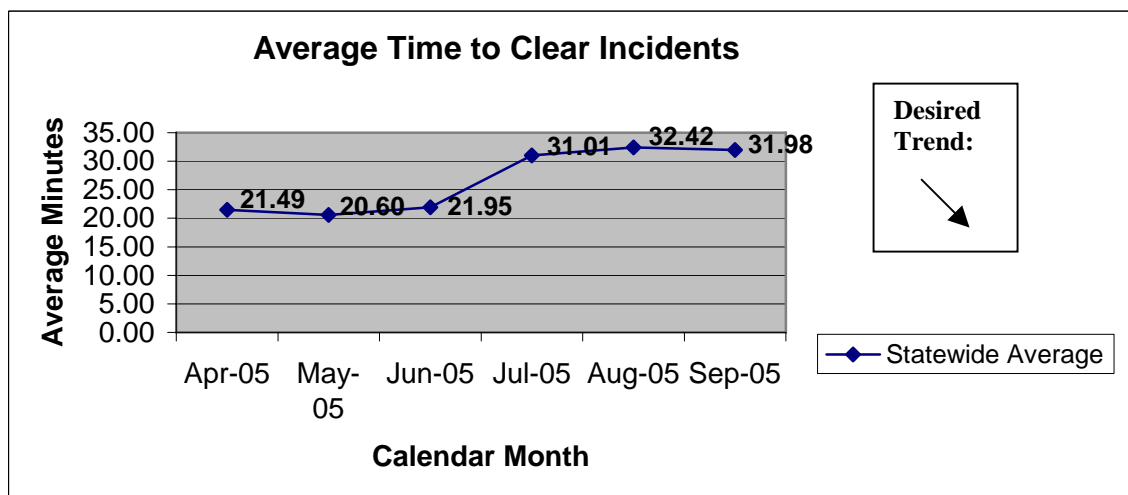
This measure is used to determine what deficiencies or efficiencies exist in the clearance of incidents on the state highway system. A traffic incident is an unplanned event that creates a temporary reduction in the number of vehicles that can travel on the road.

Measurement and Data Collection:

Collection of data began March 1, 2005. "Time of arrival" and the time for "all lanes cleared" are being recorded by Motorist Assist operators and Traffic Management Center staff. Average time to clear traffic incidents is calculated from these recorded times.

Improvement Status:

This data shows that overall, the incident clearance times on urban freeways in Missouri is higher during the third quarter of 2005 as compared to the second quarter of 2005. With the third quarter including the majority of the peak travel and road construction seasons, clearance times may be negatively affected in the metro areas; but with no historical data, we will have to monitor this trend in the coming months. While the presence or absence of several large incidents can significantly impact the data on any given month, the overall trend should decrease due to deployment of incident management strategies. Regional working groups comprised of emergency responders and partners across I-44 and I-70 corridors are providing venues for discussion, training and expanded cooperative efforts for rapid incident clearance. Working groups are now forming and meeting in Joplin, Springfield, Rolla, St. Louis, Montgomery City, Columbia and Kansas City. Quick clearance workshops were held in late October 2005 in Joplin, Springfield, Columbia and Kansas City.



Uninterrupted Traffic Flow

Average time to clear traffic backup from incident

Result Driver: Don Hillis, Director of System Management

Measurement Driver: Dan Bruno, Traffic Studies and Corrections Engineer

Purpose of the Measure:

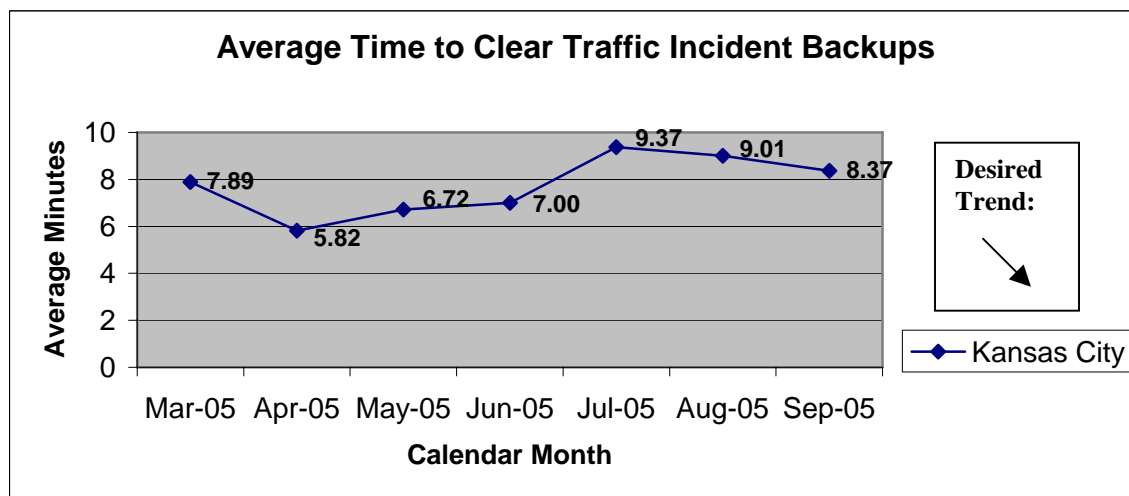
This measure tracks the amount of time it takes to return traffic flow back to normal after a traffic incident. A traffic incident is any unplanned event that creates a temporary reduction in the number of vehicles that can travel on the road.

Measurement and Data Collection:

“Lanes cleared” times and “clear backup” times are being recorded by the Traffic Management Center operators using automated detection systems. District 4 (Kansas City) has devices already deployed with data being gathered along portions of I-435 and I-70. District 6 (St. Louis) will begin collecting data as advanced transportation management system devices and software come online over the next 3 to 6 months. Average time to clear traffic backup are calculated from these recorded times.

Improvement Status:

This data shows that congestion clearance times experienced a moderate increase in the third quarter of 2005. The presence or absence of large incidents in any single time period can cause significant fluctuations for a small data set. Additionally, the time of day that incidents are occurring will also directly affect the amount of traffic stuck in the queue, and therefore, the amount of time to clear that congestion. The third quarter included the majority of the peak travel and construction season. This normal increase in traffic demand may also have contributed to the amount of time required to clear an incident. According to the FHWA, each minute of daytime lane blockage in urban areas can result in 4 minutes of residual congestion on average. Quick clearance activities that are currently being promoted statewide will provide for reduced overall delay to motorists, particularly for incidents during peak travel times and peak construction seasons.



**Note St. Louis will begin collecting data as advanced transportation management system devices and software come online over the next 3 to 6 months.*

Uninterrupted Traffic Flow

Number of customers assisted by the Motorist Assist program

Result Driver: Don Hillis, Director of System Management

Measurement Driver: Dan Bruno, Traffic Studies and Corrections Engineer

Purpose of the Measure:

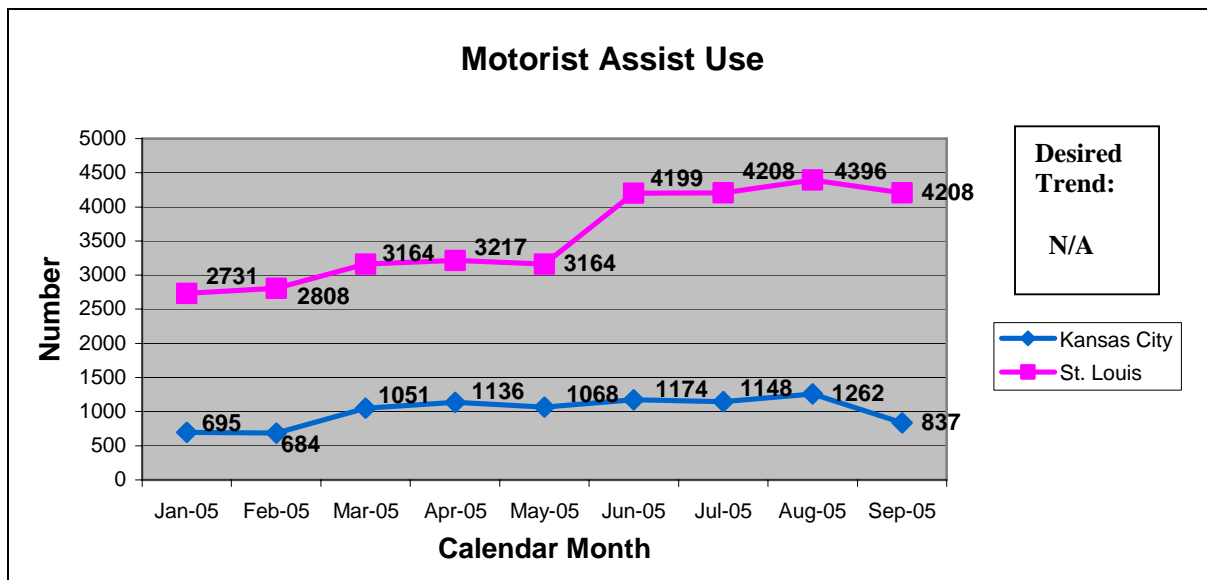
This measure is used to gauge the use of the Motorist Assist programs. Incidents impact Missouri's transportation system capacity. An incident is any unplanned event that creates a temporary reduction in roadway capacity that impedes normal traffic flow. The sooner an incident is removed, the sooner the highway system returns to normal capacity. Therefore, responding to and quickly addressing the incidents (crashes, flat tires, stalled vehicles, etc.) improves system performance.

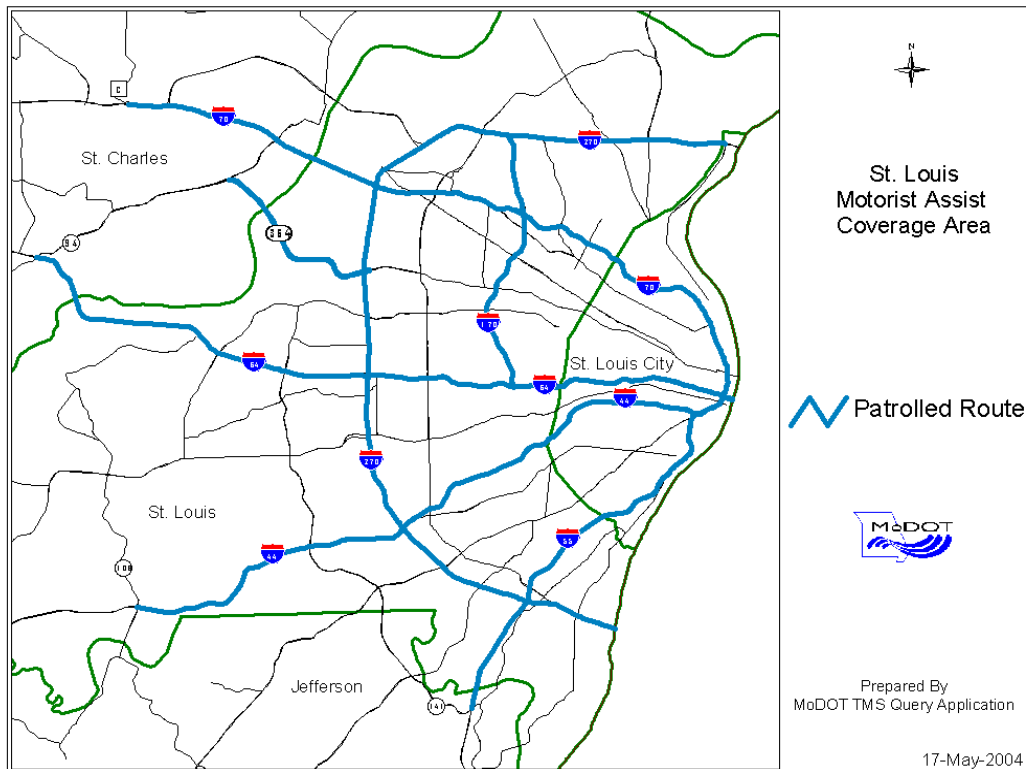
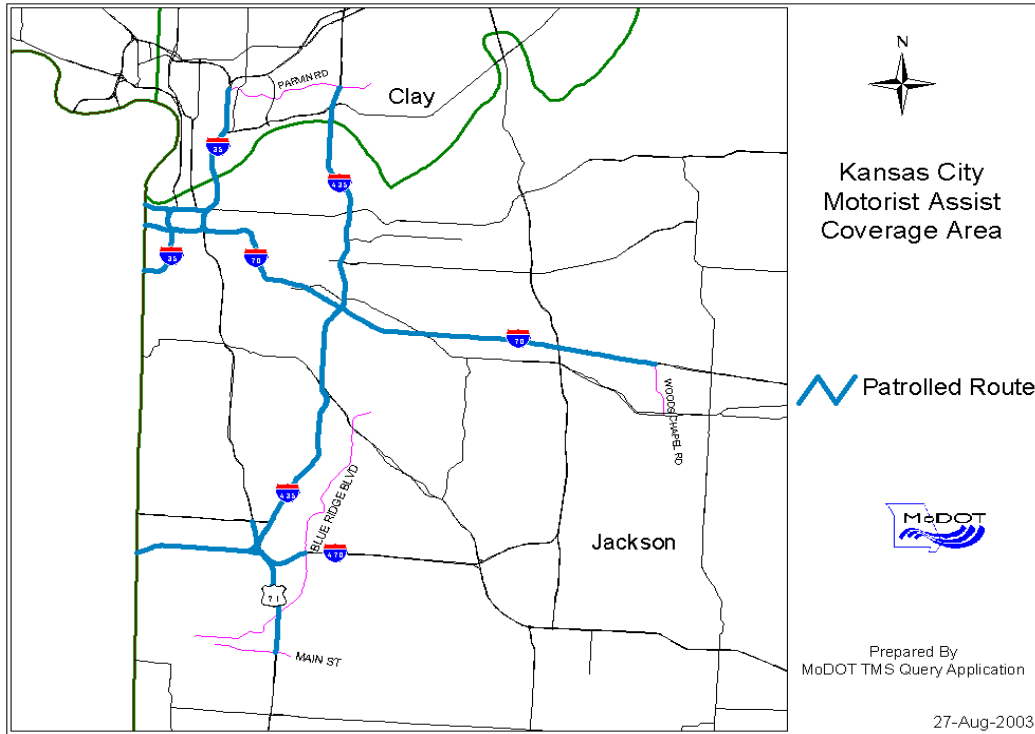
Measurement and Data Collection:

Collection of monthly data began in January 2005. The Motorist Assist operators record each assist and then prepare a monthly summary. St. Louis operators patrol approximately 160 freeway miles, while Kansas City operators patrol approximately 60 freeway miles.

Improvement Status:

This data demonstrates that the Motorist Assist program in both St. Louis and Kansas City is experiencing a routine increase in assists due to increased weather temperatures and roadway volumes. The sharp increase in assists in the St. Louis area is attributable to a spike in temperature and a period of recurring severe weather resulting in increased breakdowns and collisions. This data also demonstrates a typical pattern of increased assists during peak travel season, followed by a decrease in services in late summer and early fall.





Uninterrupted Traffic Flow

Percent of work zones meeting expectations for traffic flow

Result Driver: Don Hillis, Director of System Management

Measurement Driver: Scott Stotlemeyer, Technical Support Engineer

Purpose of the Measure:

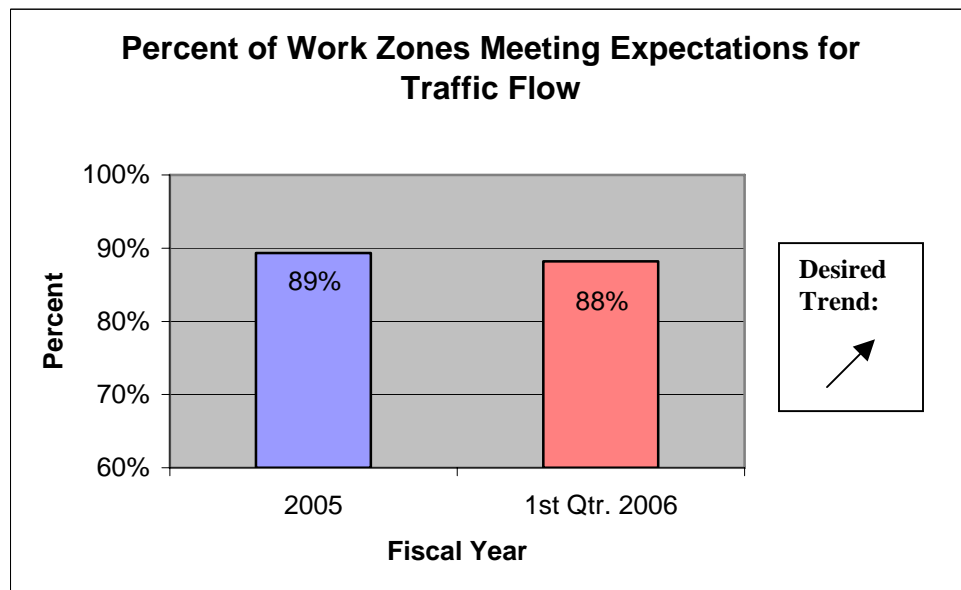
An important factor in evaluating the department's performance in temporary traffic control design, deployment, operation, and maintenance is the measurement of our work zones affect on the mobility of highway users. This measure tracks how well the department meets its customer expectations of work zones on state highways.

Measurement and Data Collection:

Using a formal inspection worksheet, staff from Construction and Materials, Maintenance, Traffic and the districts evaluate mobility in construction, MoDOT, and permit work zones across the state. Each evaluation consists of a subjective assessment of engineered and operational factors that affect traffic flow. The evaluator assigns a pass, fail, or n/a rating to each of these individual factors and a pass or fail rating for their overall perception the work zone. The overall perception ratings are compiled quarterly and reported via this measurement. Note: This inspection program began in June 2005. A total of 402 inspections (122 in June and 280 in first quarter FY 2006) have been completed since its inception.

Improvement Status:

The percent of work zones meeting traffic flow expectations decreased slightly (-1.1 percent) this past quarter. The lower percentage does not reflect a relaxation in MoDOT's desire to provide exemplary work zones. Rather, it provides the department with a better baseline of where we are now and identifies opportunity for improvement. Department staff continues to enhance work zone mobility guidance and convey those expectations to contractors, employees and permittees. As this information becomes part of the culture for those who design, build, and maintain the state's highway system, we expect the percentage reported in this measure to increase.



Uninterrupted Traffic Flow

Percent of retimed signals

Result Driver: Don Hillis, Director of System Management

Measurement Driver: Julie Stotlemeyer, Signal and Lighting Engineer

Purpose of the Measure:

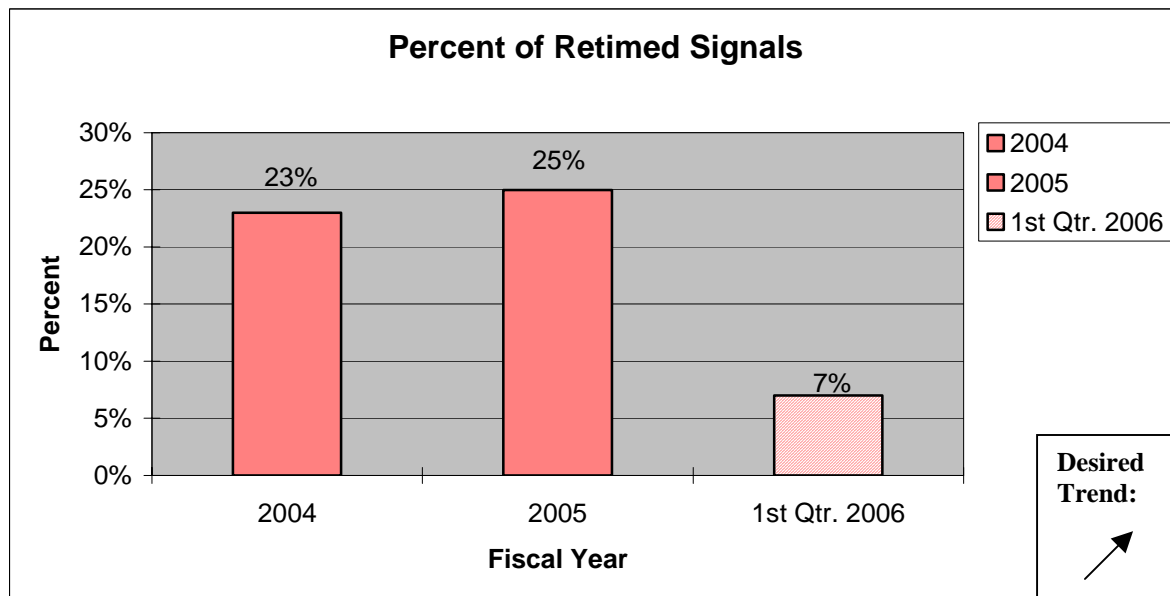
This measure tracks how well the department is adjusting the timing of the signal system to improve traffic flow.

Measurement and Data Collection:

Traffic engineers document retimed signal data on a timing sheet. The date of the retiming is recorded in the Transportation Management System database. Data is collected from the TMS database to generate the report. Signals usually operate under several timing plans. Only one portion of the timing plan may have been changed and captured as a retiming. The retiming could have been completed as a result of a customer complaint or a signal observation. Retiming signals for efficient operation should involve quite an in-depth study and this may not be reflected in this measure.

Improvement Status:

For first quarter of fiscal year 2005 we retimed six percent of our signals. Hence, we are performing at or about the same rate as last year. Not every signal may need to be retimed, so we would not expect 100 percent of all signals to be retimed every year. But in order to maintain uninterrupted traffic flow, signals should be retimed at a minimum of every three years. Based on this, we could expect about eight percent to be retimed each quarter. Therefore, we are just about on target. In July and August of 2005, a signal-timing course was offered to engineers to further develop their signal timing skills. A quality assurance plan for signal timing has been developed and a quality assurance review of two districts has been completed.



Uninterrupted Traffic Flow

Percent of Motorist Assist customers who are satisfied with the service

Result Driver: Don Hillis, Director of System Management

Measurement Driver: Dan Bruno, Traffic Studies and Corrections Engineer

Purpose of the Measure:

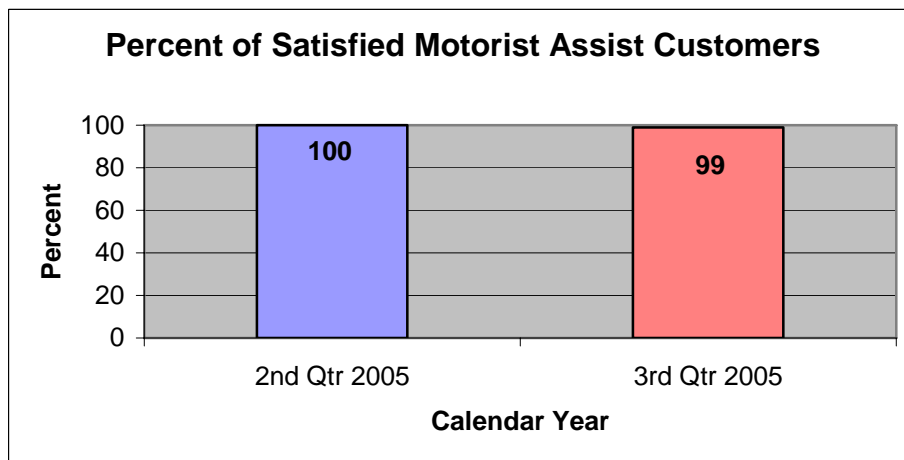
This measure helps evaluate services provided through MoDOT's Motorist Assist Program, specifically whether the customers who use the program are satisfied with the service. Information received provides direction on how to better serve our customers and keep traffic moving safely and efficiently.

Measurement and Data Collection:

Motorist Assist operators began distributing a survey card to customers on June 1 to collect data. Data is compiled and tabulated by the Missouri Transportation Institute. Surveys with selections identifying that the service was "probably" or "definitely" valuable were tabulated as "satisfied" for this measure.

Improvement Status:

The data for this measure included responses from 120 pre-printed survey forms in the second quarter and 204 pre-printed forms in the third quarter that were returned to MoDOT by motorists who used the Motorist Assist service in the Kansas City and St. Louis metro areas. This initial data concurs with the comments that have been historically provided by customers on prior comment forms. The change to 99 percent from the second quarter to the third quarter represents a single respondent out of 204 surveys who selected that they were neither satisfied nor dissatisfied with the service. Based on a question in these surveys, 99 percent of respondents selected that they definitely believed that MoDOT should continue to provide this service.



**Desired
Trend:**



Uninterrupted Traffic Flow

Percent of signals observed

Result Driver: Don Hillis, Director of System Management

Measurement Driver: Julie Stotlemeyer, Signal and Lighting Engineer

Purpose of the Measure:

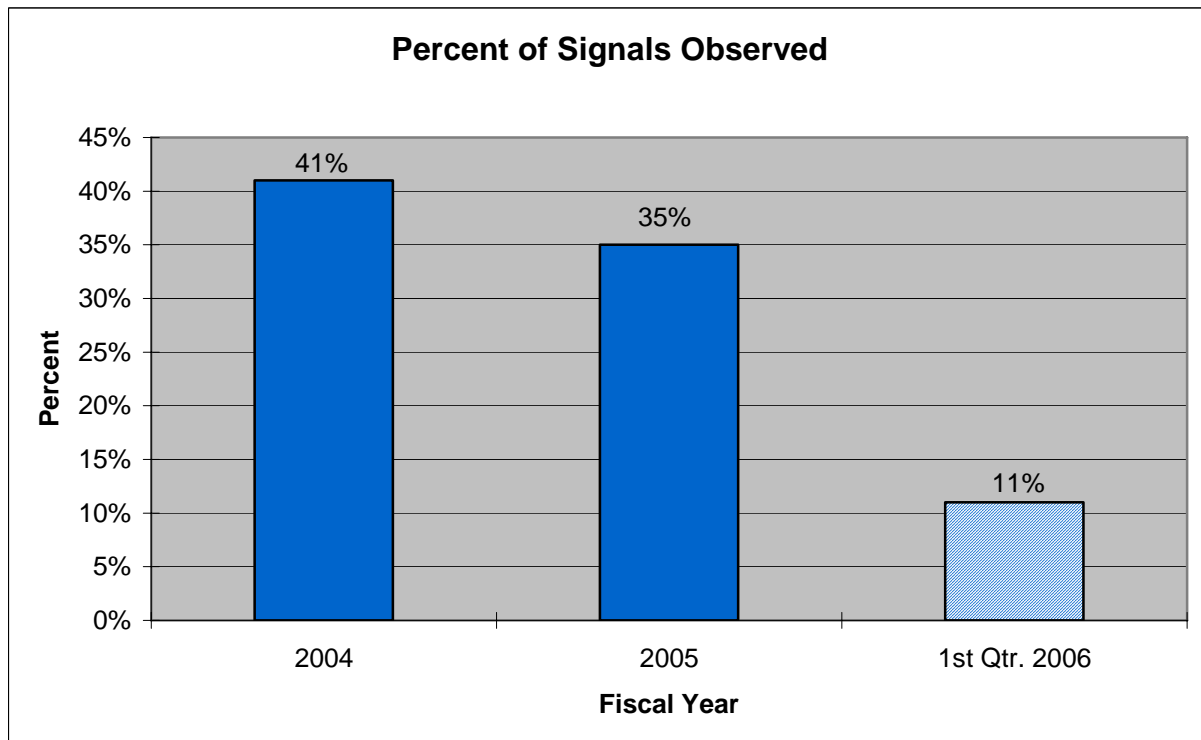
This measure tracks how well the department is monitoring the signal system to improve traffic flow.

Measurement and Data Collection:

Traffic engineers document observed signal data on an observation sheet. The date of the signal observation will be recorded in the Transportation Management System database. Data is collected from the TMS database to generate the report. A complete signal observation requires personnel to monitor the signal during four different times of day: AM peak, Noon peak, PM peak and off peak.

Improvement Status:

For the first quarter of fiscal year 2006 we observed eleven percent of our signals, an increase of three percent from first quarter fiscal year 2005. However, to complete observations on all signals, we should observe approximately 25 percent of signals per quarter. All signals should be observed each year with adjustments made to the timing, if necessary, to improve uninterrupted traffic flow. Guidance on how to conduct signal observations has been developed as well as a quality assurance plan for signal observations. A quality assurance review of two districts has been completed.



**Desired
Trend:**



Uninterrupted Traffic Flow

Time to meet winter storm event performance objectives on major and minor highways

Result Driver: Don Hillis, Director of System Management

Measurement Driver: Tim Jackson, Technical Support Engineer

Purpose of the Measure:

This measure tracks the amount of time needed to meet the performance objectives in MoDOT's snow and ice removal efforts.

Measurement and Data Collection:

This data is collected in the Lotus Notes Winter Event database. This measurement will track the actual time involved in this process so improvements can be made. After each winter event, such as a snow or ice storm, area maintenance personnel submit a report indicating how much time it took to clear snow from the major and minor highways. Data collection will begin after the first snowfall this winter for inclusion in the January 2006 Tracker. The objectives are to restore the major highways to a wet or dry condition as soon as possible after a storm's end; to restore the higher volume (greater than 1,000 average daily traffic) minor highways to a wet or dry condition as soon as possible after a storm's end; and to have the lower volume (less than or equal to 1,000 average daily traffic) minor highways open to two-way traffic and treated with salt and/or abrasives at all critical areas such as intersections, hills and curves, as soon as possible after a storm's end.

Improvement Status:

**Measure is Being
Developed**